

Appl. No 10/700,435

Amdt. Dated

Reply to Office action of 08/10/2004

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Amendments to the Specification:

Please replace the specification with the following rewritten specification:

BACKGROUND OF THE INVENTION

10 Field of the Invention

The present invention relates to a shell structure for an electrocar (including electric wheelchair), and more particularly to a shell structure which can be quickly assembled to and removed from the electrocar without the need for any special tools.

15 Description of the Prior Arts

A conventional shell 11 for an electrocar 10 as shown in Fig.1 is integrally formed and can be directly mounted to the electrocar 10 using screws. For aesthetic purposes, the respective connecting structures between the shell and the frame of the electrocar are designed to be hidden away and 20 the shell is usually mounted to the electrocar by special screws (the special screws need to be screwed by special tools), so that the shell of the conventional electrocar only can be assembled or disassembled by professional workers. Consequently, the maintenance fee is relatively high.

After a certain period of use, the shell may be dirtied or scratched, so it needs to be cleaned. However, the user has to clean the shell very carefully in order not to make the inner side of the shell wet due to many electric components are arranged under the shell(such as controlling element, battery, 5 circuit, and etc). This is inconvenient and time-consuming.

The conventional shell is difficult to be removed from the electrocar, the color and shape of shell on an electrocar will be fixed, and it is impossible for the user to design the color and shape of the electrocar by himself/herself.

10 The present invention has arisen to mitigate and/or obviate the afore-described disadvantages of the conventional shell for electrocar.

SUMMARY OF THE INVENTION

The primary object of the present invention is to provide a shell structure for an electrocar. The shell structure includes an outer shell mounted on an inner shell, both the outer shell and the inner shell are provided with a 15 plurality of connecting members which can enable the outer shell to be easily mounted to and released from the inner shell. Thereby, the user can replace the outer shell by themselves without the need for any special tools.

The secondary object of the present invention is to provide a shell structure for electrocar, wherein the outer shell can be assembled to or 20 released from the inner shell quickly without the need for any special tools, the user can DIY a wheelchair by using the shell which has the desired color and shape.

The present invention will become more obvious from the following

description when taken in connection with the accompanying drawings, which shows, for purpose of illustrations only, the preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

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Fig. 1 is a perspective view of a conventional electrocar;

Fig. 2 is an exploded view of a shell structure for electrocar in accordance with the present invention;

Fig. 3 is a perspective assembly view of Fig. 2;

Fig. 4 is an exploded view of a shell structure for electrocar in 10 accordance with a second embodiment of the present invention;

Fig. 5 is a perspective assembly view of Fig. 4;

Fig. 6 is an exploded view of a shell structure for electrocar in accordance with a third embodiment of the present invention;

Fig. 7 is an exploded view of a shell structure for electrocar in 15 accordance with a fourth embodiment of the present invention;

Fig. 8 is a partial cross sectional view of fig. 7.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figs. 2-3, in which, a shell structure for an electrocar in accordance with the present invention is shown and including an outer shell 20 30 mounted on an inner shell 20.

The inner shell 20 is fixed to an electrocar for covering inner structure of the electrocar, on the outer surface of the inner shell 20 are provided a plurality of connecting members 21.

The outer shell 30 are mounted on the inner shell 20, on the inner surface of the outer shell 30 are provided a plurality of connecting members 31 corresponding to the connecting members 21 of the inner shell 20. These connecting members 21, 31 are designed to allow the outer shell 30 to be 5 mounted on and removed from the inner shell 20 more quickly and easily.

In this embodiment, the connecting members 21, 31 can be hook and loop fasteners 211, 311 (as shown in Figs. 2 and 3), which are provided for enabling the outer shell 31 to be quickly assembled to or removed from the inner shell 20.

10 Referring further to Figs. 4-5, the connecting members 21, 31 also can be magnets 212, 312, which can enable the outer shell 30 to be quickly assembled to and removed from the inner shell 20. Besides the above-mentioned magnets and hook and loop fasteners, ordinary adhesive tape, double-sided adhesive tape 213 (as shown in Fig. 6) also can provide 15 quick release and removal of the outer shell 30. With reference to Figs. 7 and 8, on inner surface of the outer shell 30 are provided plural engaging members 314, on inner surface of the inner shell 20 are provided a plurality of receiving members 214 (which can be made of elastoplastic material), the engaging members 314 are engaged with the respective receiving members 214, so as to 20 assemble the outer shell 30 to the inner shell 20.

The shell for electrocar in accordance with the present invention has the following advantages:

First, after long time of use, the outer shell 30 will be dirtied, the user

can remove the outer cover 30 from the electrocar so as to wash it directly with water. Thereby, the electric components inside the electrocar are prevented from water.

Second, since the outer shell can be easily assembled to or released from the inner shell, the user can DIY a wheelchair by using the shell which has the desired color and shape.

Third, in case that the shell is damaged, the user can replace it easily by himself/herself without the need for any special tools, so that the maintenance cost is consequently reduced.

10 While we have shown and described various embodiments in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.